Impact of Digital Adoption on the Income of the artisans Tribe (Lohra, Karmali, Chik-Baraik) in Jharkhand

Proposed Synopsis for Research

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1. Introduction

Jharkhand, a state rich in its cultural heritage, is home to diverse artisan communities renowned for their exquisite craftsmanship. Nevertheless, other obstacles, such as restricted access to markets, low product awareness, and exploitation by intermediaries, make it difficult for many craftsmen to make a living wage, regard less of their abilities and hand work. Lack of adoption of digitization is one of them. Digital adoption refers to the process by which individuals or organizations integrate digital tools, technologies and platforms into their existing workflows and routines and fully leverage their capabilities to achieve desired outcomes (Molinilo, 2017)[1]. It involves not only implementing digital solutions but also ensuring that users understand how to use them effectively and efficiently. This includes training, support and change management strategies to encourage widespread adoption and usage of digital tools. Digital adoption empowers artisans to expand their market reach, improve operational efficiency and stay competitive in an increasing digital market place (Guha, 2022)[2]. Digital technologies have the potential to revolutionize the lives of these artisans by empowering them to overcome these challenges. Digital adoption can indeed be beneficial for artisans, although it's not always necessary depending on the nature of the craft and there specific goals (Fagbuyi, 2023)[3]. Establishing an online presence through a website or social media platforms can significantly expand the reach of artisans' products. This allows artisans to showcase their work to a global audience, potentially leading to increased sales & recognition. Embracing e-commerce platforms enables artisans to sell their products directly to consumers worldwide, without the need for a physical storefront (Hidayat, 2016)[4].

However, with the increasing digitalization, there is a need to understand how the adoption of digital tools and technologies impacts the income of the artisan tribe in Jharkhand. By understanding the impact, policies and interventions to enhance income opportunities for artisans can be framed. It also helps bridge the digital divide and promotes inclusive growth. It also aims to understand the relationship between digital adoption and the economic well-being of artisan's tribe in Jharkhand, with the ultimate goal of empowering them economically through digital means.

Thus, the purpose of the research proposal is to examine how the income of the Jharkhand craftsmen tribe is affected by the adoption of digital technology.

The study will use both primary and secondary sources of data. Secondary data on the digital adoption shall be collected from the report of NITI Aayog, RBI's Report, NABARD's Annual Report, reports of Ministry of Tribal Affairs, Ministry of Information and Technology and Other Government Publications. Primary data will be collected from head of the house hold of artisan tribes such as Mahli, Karmali, Chik- Baraik & Lohra of the study area. A sample survey will be conducted among a representative 240 sample of artisans from different communities across Ranchi. The survey will gather data on their current income levels, challenges faced, and access to technology and digital literacy skills. In-depth interviews will be conducted with artisans, government officials, and representatives of NGOs working with artisan communities. These interviews will provide insights into the lived experiences of artisans, the existing support systems, and the potential opportunities and challenges associated with digital adoption. Descriptive statistical tools like mean, percentages, pie charts, and bar diagrams will be used for the exploratory section of the data to study the impact of digital adoption on the income of different artisans of Jharkhand. Inferential statistical tools like correlation and multiple regression analysis will be used to establish the association between digital adoption impacts on income of different artisans. Chi- Square will be conducted to test the significance of the data or any suitable test persistent to the research shall be used as per requirement.

While numerous studies have explored digitalization in the broader economy, there remains a significant research gap concerning digital adoption within tribal communities, particularly among artisan tribes in Jharkhand. The purpose of this suggested study is to close this gap by examining how digital technologies affect Jharkhand's craftsmen' earnings. This research proposal seeks to contribute valuable insights to bridge the gap in understanding digital adoption among artisan tribes in Jharkhand. By addressing the research objectives, the proposed study aim to empower artisans through informed policies and sustainable income opportunities.

1.1 Digitalization

Digitalization refers to the process of using digital technologies to transform various aspects of society, business, and personal life (Jhanmir, 2018)[5]. It involves the adoption of digital tools and techniques to improve efficiency, productivity, and accessibility across different domains. Digitalization encompasses the digitization of information, automation of processes, integration of digital technologies into traditional practices, and the development of digital skills and infrastructure.

1.2 Digital Era and its importance for the artisan tribe

Digital platforms can provide new market opportunities which can positively impact artisans' income by providing them with online platforms to showcase and sell their products globally, reaching a wider base. Additionally, digital tools can streamline business operations, reducing costs and enhancing efficiency for artisans. However, challenges like digital skills gaps and market competition should be addressed to ensure inclusive benefits. E-commerce, social media, and digital marketing can enhance visibility, attracting more customers and increasing sales for artisans. Embracing digital platforms for marketing, sales, and online presence can broaden their customer reach, potentially leading to increased sales and income(Ghosal & Prasad, 2020)[6] .Balancing traditional craftsmanship with modern tools is crucial for maximizing income in the digital age(Chutia,& Sarma 2023)[7]. Additionally, digital tools may streamline business processes, reducing costs and improving overall efficiency for artisans. Combining the innovative and technological aspects with the use of digital and social media technologies to expand the selling market and launch as many items as possible can be thought to be an effective way to boost productivity in these industries. With the rapid advancement of technology, digital adoption has become essential for staying competitive and relevant in the modern world.

1.3 The artisan tribe of Jharkhand

The artisan tribe of Jharkhand includes the following tribes

Mahli tribe

The Mahli tribe is one of the indigenous tribal communities found primarily in the Indian state of Jharkhand. The total number of Mahli population in Jharkhand is 152,663 out of which rural

population is 134,322 and urban population is 18,341.The Mahli tribe is believed to be one of the ancient indigenous communities of the region. They have a rich history and cultural heritage deeply rooted in the land they inhabit (Bharti,2021)[8]. Traditionally, the Mahli tribe has been engaged in bamboo and wood craft work for their livelihood. However, with modernization and changes in artisanship patterns, many Mahli people have also adapted to other occupations such as wage labour, small-scale businesses, and government jobs. The Mahli society is organized around kinship and community. Like many other indigenous tribes, the Mahli tribe has a number of difficulties, such as poverty, a lack of access to healthcare education, and basic utilities, as well as problems with land rights. Displacement brought on by environmental degradation and development projects. Through a variety of welfare programs and initiatives, the government and non- governmental organizations are working to address these issues and improve the socioeconomic situation of the Mahli population. The Mahli tribe is recognized as a Scheduled Tribe under the Constitution of India. This recognition of their right allows them to enjoy affirmative action policies in areas like education, jobs, and political participation, safeguarding their rights and promoting social and economic growth, thereby enhancing their identity, community power, and quality of life.

Lohra Tribe

The Lohra tribe is one of the indigenous tribal communities residing in the state of Jharkhand in India. The total population of the Lohra in Jharkhand is 2,16,226 out of which rural population is 1,83,497 and urban population is 32,729 The Lohra tribe predominantly inhabits the hilly and forested regions of Jharkhand, especially in districts like Ranchi, Gumla, Simdega, Khunti, and Saraikela-Kharsawan. They have a strong connection to their traditional lands and forests. The Lohra tribe belongs to the larger Munda ethnic group, which is one of the major indigenous communities in Jharkhand. Historically, the Lohra tribe has been engaged in subsistence to make iron objects. However, with the rapid modernization and changes in artisanship patterns, many have transitioned to other occupations like wage labour, small businesses, and government jobs. Lohra tribe faces numerous challenges including land rights issues, lack of access to healthcare, education and necessities, and marginalization from mainstream society(Singh, 1999)[9]. Numerous governmental organizations are working to address these problems and enhance the socioeconomic circumstances of the neighbourhood. Efforts to preserve and promote their cultural traditions while

addressing their socio-economic needs are crucial for ensuring their well-being and continued existence.

Karmali Tribe

The Karmali tribe, also known as the Oraon tribe, is one of the prominent indigenous communities of Jharkhand, India. They primarily inhabit the Chotanagpur region, which includes districts like Ranchi, Gumla, Lohardaga, and Palamu. The total number of Karmali tribe in Jharkhand 64,154 out of which rural population is 46,162 and urban population is 18,341.The Karmali people are believed to be one of the earliest settlers in the region, with a history dating back centuries. Historically, the Karmali tribe, an artisan community in Jharkhand, primarily consists of skilled blacksmiths. Their expertise lies in ironworking. Traditionally, they engage in the smelting of iron and craft various iron tools. These tools are subsequently distributed to other tribes and castes involved in agricultural activities, although modernization and development have led to diversification in their occupations. Karmali tribe faces experiences issues such land alienation, displacement brought, and limited access to healthcare and education. Efforts by government and non-governmental organizations aim to address these issues through various welfare schemes, educational initiatives, and advocacy for tribal rights..

Chik-Baraik

In the Indian state of Jharkhand, there exists a small indigenous community known as the Chik-Baraik. The total population of Chik- Baraik in Jharkhand is 54,163 out of which rural population is 47,530 and urban population is 6,633.The Chik- Baraik primarily inhabit the forests and hilly regions of Jharkhand, particularly in districts like Gumla, Simdega, Ranchi, and Khunti. Their settlements are often located in remote and forested areas. Traditionally, the Chik -Baraik people have been engaged in weaving. Similar to other indigenous tribes in India, the Chik- Baraik tribe encounters a range of obstacles such as poverty, limited availability of education and healthcare, land rights disputes, and marginalization. The government and non-governmental groups are actively working to tackle these difficulties and enhance their socio- economic circumstances.

There is growing recognition of the importance of preserving the cultural heritage of indigenous tribes like the Chik -Baraik. Efforts are being made to document their language, traditions, and craftsmanship, as well as to promote their cultural identity and rights.

1.4 Profile of Jharkhand

Jharkhand's name translates to "land of forests". The Bihar Reorganization Act was passed November 15, 2000, creating the 28th state of the Indian Union. The 2011 Indian Census indicates that 32,988,134 people call Jharkhand home. Out of this, the male population is 16,930,315 and the female population is 16,057,819. The Urban population was 7,933,061 individuals, with 4,153,829 being men and the remainder 3,779,232 being females. The male population in rural parts of Jharkhand was 12,776,486 while the female population was 12,278,587. The total land area of Jharkhand is 79,716 square kilometres. The population density of the state varies throughout its districts, with an average of 414 people per square kilometre.

As per census 2011, the average sex ratio of Jharkhand is 948 which is above the national average. The total literacy rate of Jharkhand is 66.41 percent which is less than average literacy rate 72.98percent of India. Also the male literacy rate is 76.84percent and the female literacy rate is 55.42percent in Jharkhand. The state of Jharkhand consists of a total of 24 districts. Originally, there were 18 districts. However, in the following years, these 18 districts were rearranged and an additional 6 districts were created from them. This resulted in an expansion in the number of districts in Jharkhand from 18 to 24. Jharkhand consists of 24 districts, 260 blocks, 264 intermediate Panchayats, and 4345 Gram Panchayats, as well as 32,620 villages. Based on the 2011 census, the overall population of the Scheduled Tribe (ST) is 8,645,042, with 4,315,407 being male and 4,329,635 being female. In Jharkhand, the predominant artisan tribes are Chik-Baraik, Karmali, Lohra and Mahli. The combined population of these craftsman's 487,806 with 246,343 being male artisans and 240, 863 being female artisans.

Jharkhand, located in eastern India, is known for its unique geographical features. Jharkhand, located between Bihar to the north, Uttar Pradesh and Chhattisgarh to the west, Odisha to the south, and West Bengal to the east, serves as a vital link between the country's northern and southern areas. Covering an expansive area of about 79,714 square kilometres, the state exhibits a wide range of geographical diversity. Major cities of Jharkhand are Ranchi, Jamshedpur, and Dhanbad. The climate of Jharkhand is tropical with heavy monsoon rainfall. The major rivers of Jharkhand are Damodar, Subarnarekha, Barakar, koel and Phalgu. The major industry in Jharkhand is of steel production, mining, manufacturing, power generation. The major crop of Jharkhand is Paddy, wheat, maize, pulses, oilseeds, potato. The main festival of Jharkhand is

Sarhul, Karma, Tusu, Chhath, Jitiya, Makar Sankranti. The regional languages that belong to the Jharkhand is Kortha, Nagpuri and Kudmali. Jharkhand's basic foods are rice, dal, veggies, and tubers. Some dishes are Chilka Roti, Malpua, Dhooska, Arsa Roti, and Pitha. Jharkhand's folk dances include Jhumair, Domkach, Lahasua, Vinsariya, Jhumta, and Chhau.

2. State of the art

There is enough literature concerning artisans and digital adoption. A few notable ones have been mentioned below:

Kanungo et al (2020)[10] The research offers policymakers insights into the challenges faced by traditional craftspeople suggesting measure likes subsidizing raw materials, creating fair wholesale stores, and providing financial support for showroom construction to ensure a stable and sustainable livelihood. Identify many impediments to the survival of craft in the contemporary scenario that limit artisans' livelihoods. According to the study, poor capital base, less decision-making power in the hands of female craftsmen, interference from machine products, and the problem of intermediaries all impede the growth of this ancient craft in the modern period.

Debbarma (2019)[11] figured artisans in the handicraft industry often work in traditional, unorganized sectors, facing exploitation and low wages. They lack awareness of government schemes and suffer from inadequate training facilities. This lead to challenges in meeting consumer demands and competing the urban counterparts. Addressing these issues through targeted interventions and support measures is crucial for the sector’s development and the improvement of artisan’s quality of life.

Segun et al (2015)[12] 12 has highlighted that the relationship between socio- economic characteristics, specifically age, education, and work experience, and mobile phone usage and gratification among artisans in Ogun. The results indicate that age significantly predicts mobile phone usage and gratification among artisans, while education and work experience do not show significantly independent predictive power. The implications of the findings suggest that age

should be considered in designing and producing phones for artisans, and artisans should be encouraged to use mobile phone to boost their trades.

Perumula et al (2020)[13] examines the impact of the Khadi programme on artisans' livelihoods, challenging Gandhi's assumption that it would lead to socio-economic well-being. Instead, it finds that artisans are trapped in low-income situations due to limited job prospects and low skill levels. The presence of marginalized groups exacerbates theses issues. The Khadi and village industries Commision (KVIC) has failed to achieve its goals, raising questions about whether Khadi sector employment constitutes 'decent work' due to low wages and lack of social security. The paper suggests innovation in technology and designs, as well as unionization of artisans, as potential solutions. Despite shortcomings, some recommendations are being implemented by KVIC.

Yadav et al (2022)[14] analyses the socioeconomic realities and marketing obstacles encountered by craftsmen working in bell metal crafts. The findings suggest that artists work for around 90 days per year. Despite considerable demand for the products in both foreign and domestic markets, craftsmen struggle to produce due to high raw material costs and antiquated manufacturing technology. Marketing constraints, such as intermediaries and market connectedness, limit their ability to prosper. To solve these difficulties, the report offers the BELL model, which tries to integrate current government programs and improve. The model seeks to provide solutions for the challenges faced by artisans in the bell metal crafts sector, ultimately improving their socio-economic conditions and market accessibility.

Christopher et al (2023)[15] highlighted that the proliferation of mobile phones, particularly smart phones, has led to increase the internet connectivity. This connectivity presents an opportunity for business, including the artisans who play a significant role in the economy. The study found a substantial link between the use of fundamental social media digital platforms in business management and the artisans' formal education level. The study underscores the importance of integrating information technology into business operations and highlights the potential for enhancing business management skills through digital platforms.

Guha et al (2022)[16] opined that the adoption of alternative model by artisans during the COVID-19 pandemic illustrate the impact of the critical aspects on the performance of alternative business models among artisans, leading to conclusions that suggest avenues for future research. The study

suggests the policymakers could derive theoretical implications from its findings to support the development of artisans in embracing alternative business models by artisans during pandemic.

Salamzudeh et al (2022)[17] pointed out that the creative industry have emerged as vital components of the global economy. Creative industries are viewed through an entrepreneurial lens, leveraging digital advancement to produce cultural and creative products that primate various aspects of daily life. To enhance productivity in these industries, a combination of innovation, technology, and digital platform is essential. It focuses on creative cultural products, particularly in pottery, ceramics and sewing industries, with a specific analysis of digital technologies and social media for promoting these products.

Pagan et al (2020)[18] highlighted that the topic programs involving future creative and designers emphasises the huge potential cultural heritage for the progress and innovation of creative industries and the nurture of youthful talent. The discussion emphasizes how cultural heritage, both tangible and intangible, serve as a rich resource for fostering creativity and contributing to creative processes. It also acknowledges potential challenges, such as the risk of locking creativity into certain paths and hindering development.

Priyabarta et al (2021)[19] highlighted that the fourth industrial revolution emphasizing its fusion of digital, biological and physical worlds. It identifies key technologies driving this revolution, such as Cloud Computing, Big Data, IoT, and AM. The role of education in nurturing the next generation of Digital Artisans is explored, highlighting how Am technologies are being integrated into academia curricula to foster creativity and hands on learning.

Sarumi et al (2021)[20] highlighted that rural artisans and entrepreneurs face significant challenges, including limited access to education, capital, market intelligence, and institutional support. The emergence of new media, particularly social media platforms, presents a tremendous opportunity for these individuals to overcome some of these barriers and improve their economic prospects. Social media platforms enable rural craftsmen and entrepreneurs to exhibit their goods and services to a broader audience, engage with prospective clients, and develop a robust online presence. This people lack knowledge and comprehension of the economic and commercial applications of social media, despite its potential advantages.

Salamzadeh et al (2022)[21]highlights the significance of creative industries in the contemporary global economy, noting their rapid growth. It emphasizes viewing creative industries through an entrepreneurial lens, particularly in the digital age where cultural and creative products profoundly influence daily life. The combination of advanced business practices and traditional cultural elements in these products makes them widely accepted by the public and economically valuable. The study focuses on pottery, ceramics, and sewing industries and examining the challenges and opportunities they face. It suggests leveraging innovation, technology, digital platforms and social media to enhance productivity and market reach in these sectors.

According to Shah et al (2017)[22] craftspeople mostly work in traditional and unorganized sector, which expose them to exploitation and result in low wages. They are part of the lower strata of social and economic hierarchy. These person do considerable work, however, they do not get sufficient revenue to maintain a basic standard of living. A matter of substantial worry is around the middlemen who a substantial portion of the revenue so leaving a minimal quantity for the craftspeople. Throughout history artisans have played a pivotal part in Indian culture, and they continue to be the primary contributors to its advancement.

Madhulika (2019)[23] pointed out that the impact of digital entrepreneurship on employment opportunities and the labour market in India is crucial for economic prosperity and the digital revolution is reshaping the way , offering significant cost and quality benefits. The study focuses on the unique effects of digital entrepreneurship in emerging markets like India, highlighting its potential to revolutionize job creation. Recommendations include stimulating innovation, encouraging global investment, and sharing expertise through digital literacy programs to leverage the benefits of digital entrepreneurship for creating new employment opportunities. The study acknowledges that while rapid technological transformation presents both challenges and opportunities, nation must modernize to effectively respond to these changes.

Siaw et al (2020)[24] highlighted that the digital adoption was influenced by various factors including off-farm employment, education, access to credit. Policy implications were drawn from findings, suggesting that promoting ICT education, expanding internet connectivity, and providing access to credit could help to alleviate poverty and improve rural development.

Molla et al (2008)[25] pointed out that the digital inclusion projects, focusing on their conception, implementation, and evaluation of development impact, using insights from Information and Communication Technologies and the livelihood framework. It highlights the effectiveness of the livelihood approach in assessing the impact of project. The processes and structure crucial for the success of digital inclusion initiatives, such as aligning with development paradigms, integrating digital and social aspects, leveraging existing community resources, ensuring institutional commitment and governance, and fostering continuous improvement for revenue generation.

Yadav et al (2008)[26] evaluated that to foster better competition in handicraft industries, preserve the handmade tradition of countries, enhance the skills of artisans, and promote entrepreneurship among them. The paper advocate for the creation of sustainable and decorative products that provide local employment opportunities, particularly for rural tribal and female artisans.

Tripathi et al (2022)[27] opined that the role of the artisans in preserving the cultural heritage amidst the digital era, with the particular focus on the participation of women. The study acknowledges the necessity of enhancing the socioeconomic status of women workers. It emphasizes digital, financial, economic, social, political and sustainable growth. Through understanding the perspectives of women artisans, policymaker can develop strategies to empower them, thereby improving their skills, personality, self-concept, leadership abilities, and income levels.

Amir et al (2019)[28] highlighted the challenges faced by current rural craftsmen in promoting their product and services, citing many causes. The performance of the manufacturer and artisans both for financing and marketing of handicrafts is unsatisfactory. Artisans rely on intermediaries for the supply of raw materials, financial support and access to markets for the final goods due to the lack of knowledge, lack of education and economic disadvantage. The incorporation of procedure and conventions pertaining to design, market, technology and marketing is essential in the process of upgrading and repositioning a craft.

According to Subhamoy Banik (2016)[29]artisans are seen as both guardians of India’s tradition and lacking access to contemporary resources and financial support. Artisans mostly engage in the traditional or informal economy, where they are susceptible to exploitation and get poor salaries. Their economic and social situations are comparatively inferior to those in other sectors. The

government's attempts to address the challenges have been hindered by the lack of policy implementation and a focus on the broader viewpoint, resulting in few or no positive outcomes.

All the above work is not sufficient to discuss about the artisan tribe of Jharkhand. Someone discussed about the socio aspects of artisans' tribe. Someone discussed about economic aspects of tribe but no one has taken an attempt to discuss about the impact of digital adoption on the income of the artisans tribe of Jharkhand. Therefore this proposed study is an attempt to fill the gap and will explore specifically the impact of digital adoption among artisans' tribes and its impact on the income of artisan tribe in the modern technological era.

Research gap

While numerous studies have explored digitalization in the broader economy, there remains a significant research gap concerning digital adoption within tribal communities, particularly among artisan tribes in Jharkhand. This proposed study aims to fill this void by investigating the impact of digital tools on the income of artisans in the region. This research proposal seeks to contribute valuable insights to bridge the gap in understanding digital adoption among artisan tribes in Jharkhand. By addressing the research objectives, the proposed study aim to empower artisans through informed policies and sustainable income opportunities.

3. Problems to be investigated

With the increasing digitalization, there is a need to understand how the adoption of digital tools and technologies impacts the income of the artisan tribe in Jharkhand. By understanding the impact, policies and interventions to enhance income opportunities for artisans can be framed. It also helps bridge the digital divide and promotes inclusive growth. It also aims to understand the relationship between digital adoption and the economic well-being of artisan's tribe in Jharkhand, with the ultimate goal of empowering them economically through digital means. Thus, the purpose of this research project is to investigate the impact of digital adoption on the income of the artisan's tribe in Jharkhand.

4. Objectives of proposed research work

1. To assess the current socio-economic status of the Mahli, Lohra, Karmali, Chik-Baraik tribes in Jharkhand.
2. To examine the extent to which these communities have adopted digital technologies in their daily lives and livelihoods.
3. To identify the digital tools and platforms used by these artisans.
4. To analyze the impact of digital adoption on their income, employment, and quality of life.
5. To analyse the barriers that artisans facing in adopting digital technologies.
6. To provide policy recommendations for enhancing the positive impact of digital technologies on the income and livelihoods of these artisan tribes.

5. Research Questions

1. How has the adoption of digital technologies, such as Smartphone and internet access, influenced the income generation activities of artisans in Jharkhand?
2. To what extent has digital adoption facilitated access to new markets and opportunities for the artisan tribes?
3. What are the digital tools and platforms used by these artisans?
4. What role does digital literacy and training play in the adoption of digital technologies among artisans?
5. What are the barriers artisans facing in adopting digital technologies?

6. How has the digital transformation affected traditional artisan practices and craftsmanship among these tribes?
7. How does the adoption of e-commerce platforms and online marketing strategies influence the market reach and income of these artisan tribes in Jharkhand?
8. How do government policies and initiatives, such as digital inclusion programs, affect the digital adoption and livelihoods of the artisan tribes in Jharkhand?
9. Whether digital adoption has improved the quality of life of artisan tribes in the Ranchi district?

6. Hypothesis

The proposed research has formulated the subsequent hypothesis on the basis of the literature review.

1. H_0: There is no significant association between digital adoption and the income of artisan tribe in Jharkhand.
2. H_0: There has been no impact of digital adoption on the level of employment of artisan tribe in Jharkhand.

7. Research Design and Methodology

7.1 Research Design

The proposed study will be descriptive as well as exploratory research. The study shall explore and analyze the impact of digital adoption on the income of artisan tribe of Jharkhand. Although there are a few data or almost nil data are available on digital adoption of the artisan tribes and their socio economic impact so the researcher will concentrate only on primary data and the outcome of the study shall be focus on the primary data.

7.2 Sources of Data and tools to be used in collection of data

Through the primary sources the data shall be collected. The data shall be conducted as a sample representing the head of the household of the artisan tribe. A structure questionnaire will be prepared and with the help of schedule method it will be filled. It is a descriptive analysis where both qualitative and quantitative method is used

A systematic random sampling technique shall be used to collect the data from the respondents.

7.3 Study Area

Jharkhand District Map

Artisan Tribes in Jharkhand(Mahli, Karmali, Lohra, Chik- Baraik)	**Total Population**	**Rural Population**	**Urban Population**
Total Population	4,87,206	4,11,511	75, 695
	Chik Baraik-54,163	Chik Baraik—47,530	Chik Baraik-6,633
	Karmali-64,154	Karmali-46,162	Karmali-17,992
	Lohra-216,226	Lohra- 183,497	Lohra- 32,729

	Mahli-152,663	Mahli- 134,322	Mahli-18,341
Garhwa	3,526	3,371	115
	Chik Baraik-224	ChikBaraik- 184	Chik Baraik- 40
	Karmali -1	Karmali- 1	Karmali-0
	Lohra-3,186	Lohra-3,112	Lohra-74
	Mahli-115	Mahli-114	Mahli-1
Chatra	2,330	2, 053	277
	Chik Baraik-16	Chik Baraik-15	Chik Baraik-1
	Karmali-625	Karmali-436	Karmali-189
	Lohra-1,575	Lohra-1,512	Lohra-63
	Mahli-114	Mahli-90	Mahli-24
Giridih	4,643	4,197	446
	Chik Baraik-14	Chik Baraik- 3	Chik Baraik-11
	Karmali-241	Karmali-236	Karmali-5
	Lohra-287	Lohra-287	Lohra-0
	Mahli-4,101	Mahli-3,671	Mahli-430
Koderma	114	100	14
	Chik Baraik-14	Chik Baraik-11	Chik Baraik-3
	Karmali-12	Karmali-1	Karmali-11
	Lohra-13	Lohra-13	Lohra-0
	Mahli-75	Mahli-75	Mahli-0
Deoghar	8,374	7,900	472
	Chik Baraik-14	Chik Baraik-12	Chik Baraik-2
	Karmali-24	Karmali-24	Karmali-0
	Lohra-778	Lohra-771	Lohra-7
	Mahli-7,558	Mahli-7,093	Mahli-465
Godda	6,786	6,696	90
	Chik Baraik-1	Chik Baraik-1	Chik Baraik-0
	Karmali-1	Karmali-1	Karmali-0
	Lohra-4,501	Lohra-4,495	Lohra-6
	Mahli-2,283	Mahli-2,199	Mahli-84
Sahibganj	5,189	5,092	97
	Chik Baraik-7	Chik Baraik-7	Chik Baraik- 0
	Karmali-20	Karmali-20	Karmali-0
	Lohra-1,618	Lohra-1,581	Lohra-37
	Mahli-3,554	Mahli-3,484	Mahli-60
Pakur	6,118	6,102	16
	Chik Baraik-0	Chik Baraik-0	Chik Baraik-0
	Karmali-8	Karmali-8	Karmali-0
	Lohra-1,664	Lohra-1,660	Lohra-4
	Mahli-4,446	Mahli-4,434	Mahli-12
Dhanbad	11,329	9,589	1,734
	Chik Baraik-69	ChikBaraik-9	Chik Baraik-60
	Karmali-83	Karmali-17	Karmali- 66

	Lohra-751	Lohra- 196	Lohra-555
	Mahli-10,426	Mahli-9,376	Mahli-1,059
Bokaro	21,165	12,968	8,197
	Chik Baraik-338	Chik Baraik-16	Chik Baraik-322
	Karmali-10,808	Karmali-7,628	Karmali-3,180
	Lohra-1,754	Lohra- 132	Lohra-1,622
	Mahli-8,265	Mahli-5,192	Mahli-3,073
Lohardaga	24,858	23,913	945
	Chik Baraik-631	Chik Baraik-583	Chik Baraik-48
	Karmali- 0	Karmali-0	Karmali- 0
	Lohra-13,842	Lohra-13,336	Lohra- 506
	Mahli-10,385	Mahli-9,994	Mahli-391
Purbi- Singhbhum	19,780	11,555	8,225
	Chik Baraik-471	Chik Baraik-331	Chik Baraik-140
	Karmali-236	Karmali-15	Karmali-271
	Lohra- 5,566	Lohra-647	Lohra-4,919
	Mahli-13,507	Mahli-10,562	Mahli-2,945
Palamu	1,650	1,544	106
	Chik Baraik- 25	Chik Baraik-20	Chik Baraik-5
	Karmali-0	Karmali-0	Karmali-0
	Lohra-1,463	Lohra-1,401	Lohra-62
	Mahli-162	Mahli-123	Mahli-39
Latehar	20,843	20,205	608
	Chik Baraik- 1,329	Chik Baraik-1,307	Chik Baraik-22
	Karmali-7	Karmali-5	Karmali-2
	Lohra-18,028	Lohra-17,588	Lohra-440
	Mahli-1,479	Mahli-1,335	Mahli-144
Hazaribagh	10,147	7,559	2,588
	Chik Baraik- 85	Chik Baraik-58	Chik Baraik-27
	Karmali-7,209	Karmali-5,606	Karmali-1,603
	Lohra-1,811	Lohra-1,339	Lohra-472
	Mahli-1,042	Mahli-556	Mahli-486
Ramgarh	40,554	26,406	14,148
	Chik Baraik-441	Chik Baraik-225	Chik Baraik-186
	Karmali-35,322	Karmali- 23,491	Karmali-11,831
	Lohra-1,492	Lohra- 427	Lohra-1,065
	Mahli-3,299	Mahli-2,233	Mahli-1,066
Dumka	14,796	14,755	41
	Chik Baraik-7	Chik Baraik-6	Chik Baraik-1
	Karmali-9	Karmali-9	Karmali-0
	Lohra-1,803	Lohra-1,786	Lohra-17
	Mahli-12,977	Mahli-12,954	Mahli-23
Jamtara	7,595	7,522	73
	Chik Baraik-8	Chik Baraik-4	Chik Baraik-4

	Karmali- 7	Karmali-7	Karmali-0
	Lohra-116	Lohra-109	Lohra-7
	Mahli-7,464	Mahli-7,402	Mahli-62
Ranchi	1,22,262	93,133	29,129
	Chik Baraik-9,288	Chik Baraik-5,931	Chik Baraik-3,357
	Karmali-9412	Karmali-8613	Karmali-799
	Lohra-71,798	Lohra-53,622	Lohra-18,176
	Mahli-31,764	Mahli-24,967	Mahli-6,797
Khunti	19,359	17,890	1,469
	Chik Baraik-2,538	Chik Baraik-2,421	Chik Baraik-117
	Karmali-18	Karmali-0	Karmali-18
	Lohra-15000	Lohra-13,829	Lohra-1,171
	Mahli-1,803	Mahli-1,640	Mahli-163
Gumla	73,863	71,724	2,109
	Chik Baraik-18,192	Chik Baraik-17,513	Chik Baraik-679
	Karmali-12	Karmali-7	Karmali-5
	Lohra-40,755	Lohra-39,988	Lohra-767
	Mahli-14,904	Mahli-14,246	Mahli-658
Simdega	43,734	41,093	2,641
	Chik Baraik-19,640	Chik Baraik-18,251	Chik Baraik-1,389
	Karmali-9	Karmali-9	Karmali-0
	Lohra-22,577	Lohra-21,361	Lohra-1,216
	Mahli-1,508	Mahli-1,472	Mahli-36
Pashchimi Singhbhum	8,512	7,516	996
	Chik Baraik-771	Chik Baraik-585	Chik Baraik-186
	Karmali-60	Karmali-26	Karmali-34
	Lohra-3,277	Lohra-2,634	Lohra-643
	Mahli-4,404	Mahli-4,271	Mahli-133
Saraikella-Kharsawan	9,679	8,528	1,157
	Chik Baraik-40	Chik Baraik-7	Chik Baraik-33
	Karmali-30	Karamli-2	Karmali-28
	Lohra-2,571	Lohra-1,671	Lohra-900
	Mahli-7,038	Mahli-6,848	Mahli-190

The study area is Ranchi district of Jharkhand state where the highest concentration of artisan's tribe resides. As a sample purposively four blocks of Ranchi district shall be chosen in which the population of artisan tribe is in maximum concentration. Each block shall consist four village comprise 15 respondents.

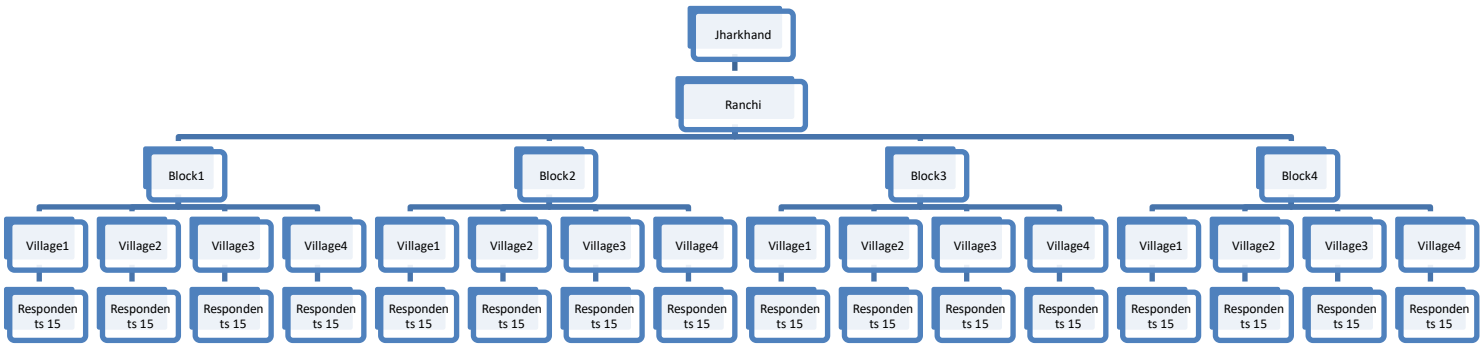
7.4 Unit of study

Head of the household of the artisan tribe shall be taken as a unit of the study.

7.5 Sample Size

The sample size is 240.

7.6 Sampling Frame



7.7 Tools to be used in data collection

Primary data- All primary data will be obtained by the administration of a predesigned structured questionnaire and interviews with sample respondents. The schedule approaches will be used to capture the responses of the participants. Quantitative data will be collected from households on

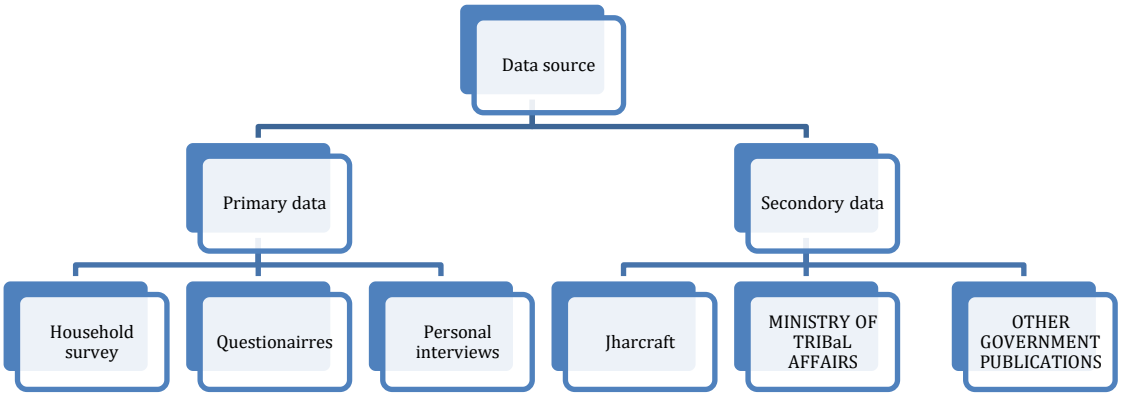
network availability, internet penetration rates, mobile phone usage, e-commerce transactions, digital payments, and online service subscriptions.

1. The digital adoption among the artisan tribe can be measured by measuring the number of daily active user, weekly active users and monthly active users. These provide insight into the sell of the product including it effective channelization.
2. Frequency of usage i.e. how often the artisans engage with digital tools.
3. Help content consumption

   The research seeks to evaluate the proficiency of artisans in using digital technologies and accessible resources by analyzing their daily use of internet data. Numbers of digital payment receiving. Cost to access the internet. Employee engagement with training to adopt new technologies. No. of sells in which digital technology is used.

   Discussion will also be held with pragyakendra and internet service provider to understand the clear picture of impact of digital adoption of income of artisan tribes.

Secondary data- will be collected from the Report of Ministry of Information and Technology, Ministry of information and broadcast, Report of Jharcraft, Report of tribal research centre, Statistical handbook of Ranchi district, block office, panchayat office, journals, books, research thesis etc.The tools of data collection to be used in this study are presented in the chart below



Source: Author's Compilation

Flow chart presented above shows that the tools to be used from collection of primary data are: household survey, questionnaires, and personal interviews; and for secondary data are Jharcraft, Ministry of Tribal Affairs, and Other Government Publications.

Tools like graphs, charts, tables, correlation, ratios, percentage, average etc will be used for data analysis.

7.8 Method **of Data Analysis**

Descriptive statistical tools like percentage, pie charts, bar diagrams used for the exploratory section of the data. To investigate how the adoption of digital technologies affects income. Inferential statistical methods such as correlation and multiple regression will be used. The Chi square test will be performed to determine the significance of the data, or any other appropriate test relevant to the research will be employed as needed.

10. Identification of variables

Several variables have been identified for the purpose of the study.

Dependent Variable- Income, Employment

Independent Variable-

1. Awareness for the internet(content to be used, internet data connection, means to be use internet(router, broadband, wifi hotspot, search engine, opera, etc)
2. Number of sell of the product
3. Per person internet data consumption
4. Market reach and income
5. Access to new market opportunities
6. Access to smart phones and internet
7. Access to literacy and training
8. Change in traditional practices and craftsmanship

9. Tentative Chapterization The research work will be systemized into seven chapters, briefed as follows:

- Chapter 1 – Introduction
- Chapter 2 – Review of literature
- Chapter 3 – Research Methodology
- Chapter 4 – Socio Economic Profile of the artisan tribe in Jharkhand
- Chapter 5- Impact of digital adoption on income, employment & quality of life of artisan tribe.
- Chapter 6 – Finding & Analysis of data
- Chapter7- Conclusion & Suggestion

10. Log Frame of Research

S.no	Objectives	Hypothesis\ Research Questions	Variables	Statistical tool	Statistical test
1	To analyze the impact of digital adoption on their income, employment, and quality of life.	**H_0**: There is no significant association between digital adoptions regarding the income of artisan tribe in Jharkhand.	Income, per person data consumption, awareness for the internet	Quantitative and Qualitative	Correlation, Chi square Regression
		H_o: There has been no impact of digital adoption on the level of employment of artisan tribe of Jharkhand.	Employment, new market opportunities	Quantitative	Correlation, Chi square, Regression
2.	To identify the digital tools and platforms used by these artisans?	R.Q. How has the adoption of digital technologies, such as smart phones and internet access,	Access to smart phones and internet	Quantitative	Pie Chart, Percentage, Bar diagram

		influenced the income generation activities of artisans in Jharkhand? R.Q. What are the digital tools and platforms used by these artisans?	Access to smart phones and internet, means to be use internet	Quantitative	Pie chart Percentage , Bar diagram
3.	To examine the extent to which these communities have adopted digital technologies in their daily lives and livelihoods.	R.Q. To what extent has digital adoption facilitated access to new markets and opportunities for the artisan tribes?	Access to new market opportunities	Quantitative and Qualitative	Percentage, Pie chart, Bar diagram
4.	To analyze the impact the barriers that artisans facing in adopting digital technologies?	R.Q. What are the barriers artisans facing in adopting digital technologies? R.Q. What role does the digital literacy and training play in the adoption of digital technologies among artisans?	Awareness for the internet, means to be use internet Access to literacy and training	Qualitative Quantitative and Qualitative	Bar diagram, Pie chart, Percentage Bar diagram, Pie chart, Percentage

5.	What are the digital tools and platforms used by these artisans?	R.Q. How does the adoption of e-commerce platforms and online marketing strategies influence the market reach and income of these artisan tribes in Jharkhand?	Market reach and income	Quantitative I and Qualitative	Percentage, Pie chart, Bar Diagram
6.	To assess the current socio-economic status of the Mahli, Lohra, Karmali, Chik-Baraik tribes in Jharkhand.	R.Q. How has the digital transformation affected traditional artisans' practises and craftsmanship among these tribes? R.Q. Whether digital adoption has improved the quality of life of artisan tribes in the Ranchi district?	Change in traditional practices and craftsmanship Quality of life	Quantitative and Qualitative	Percentage, Pie chart, Bar diagram

11. Significance, Relevance and Need of the Study

The significance of studying the impact of digital adoption among artisans lies in understanding how technology can empower traditional craftspeople. Additionally, it provides insights on the methods for narrowing the gap in access to digital resources, therefore promoting fair and inclusive involvement in the digital economy. It also informs strategies to bridge the digital divide, ensuring equitable participation in the digital economy. This knowledge can inform policies, programs, and strategies aimed at supporting artisanal communities in harnessing the benefits of digital innovation while addressing potential challenges and disparities.

Its relevance to the present day problem and needs of the society is understanding how artisans integrate digital tools and platforms into their craft can shed light on the transformation of traditional practices in response to technological advancements. This exploration helps identify the opportunities and challenges artisans face in adapting to digital technologies, potentially influencing their livelihoods and economic sustainability. Moreover, studying digital adoption among artisans can provide insights into the democratization of artistic expression and access to markets. By leveraging digital platforms, artisans may expand their reach beyond local markets, enabling them to showcase their work to a global audience and potentially increasing their income opportunities. Additionally, examining the impact of digital adoption can inform policymakers and stakeholders about the support mechanisms needed to facilitate digital literacy and infrastructure development within artisan communities, ensuring equitable access to the benefits of digitalization. Overall, understanding the implications of digital adoption among artisans is crucial for grasping the evolving landscape of craftsmanship in the digital era and devising strategies to support the preservation and innovation of artisanal traditions.

12. Contribution to existing Literature and scope for future study

The research aims to develop a strategy that would increase the income of craftsmen by implementing digitalization, so enabling them to earn greater wages. Government schemes related to digital adoption of artisans directly or indirectly. A few studies on the artisans of Jharkhand have been done but no substantial work regarding adoption of digitalization among artisans tribe of Jharkhand has been done. So this study is a novel attempt to do a comprehensive assessment on the impact of digitalization among the artisans tribe of Jharkhand. The research is mainly limited to the Ranchi district. Future research in this area can be done by taking up other districts of Jharkhand or other state.